Improving Public Safety Communications in the 800 MHz Band (WT Docket No. 02-55)

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Background

A History of Interference in the 800 MHz band

- **Since 1999, the Commission has received reports of interference to public safety communications systems caused by Commercial Mobile Radio Service (CMRS) providers operating systems in close proximity to mobile and portable radios.**

- **In 2000, representatives of the public safety and CMRS communities adopted "Best Practices," a series of voluntary technical measures to prevent or reduce interference.**

Background

A Call for Commission Action

- **Despite "Best Practices," reports of interference to public safety systems have increased in recent years, demonstrating that voluntary measures are insufficient and emphasizing the need for Commission relief.**

- **Absent Commission action, growing interference will impede the reliability of critical public safety communications systems.**

The 800 MHz Solution

800 MHz Report and Order

- **The most effective solution to Public Safety Interference is a plan comprised of both short-term and long-term components:**
  - **Short Term:**
    In the short term, the Commission will implement interference abatement measures, including "Enhanced Best Practices."
  - **Long Term:**
    In the long term, the Commission will reconfigure the 800 MHz band, thereby addressing the root cause of interference.

THE 800 MHz INTERFERENCE SOLUTION, PART I

INTERFERENCE ABATEMENT

Short-term, much-needed relief from individual interference events

Entitlement to Interference Protection

- **Adoption of a new objective technical standard for determining whether a public safety or other non-cellular 800 MHz licensee is entitled to interference protection.**

- **"Unacceptable interference" is defined, for purposes of this proceeding as that which occurs in an area in which the public safety or other 800 MHz system provides an adequate threshold signal level.**

Signal Strength Threshold

- **Upon completion of band reconfiguration of a NSPAC region, public safety, CII and other non-cellular 800 MHz systems operating in that region will receive interference protection in areas where they provide a minimum measured input signal power of -101 dBm for portable and -104 dBm for vehicular mobile units.**

- **Prior to completion of band reconfiguration, however, public safety and CII systems will be entitled to this interference protection only in areas in which they provide a minimum measured input signal power of -85 dBm (portable) or -88 dBm (mobile).**

Rules and Procedures

- **Prior Notification:** On request, cellular architecture 800 MHz licensees are required to notify non-cellular 800 MHz public safety and CII licensees of changes to their systems which could change the interference environment. The public safety and CII licensees likewise must notify the cellular-architecture licensees of such changes.

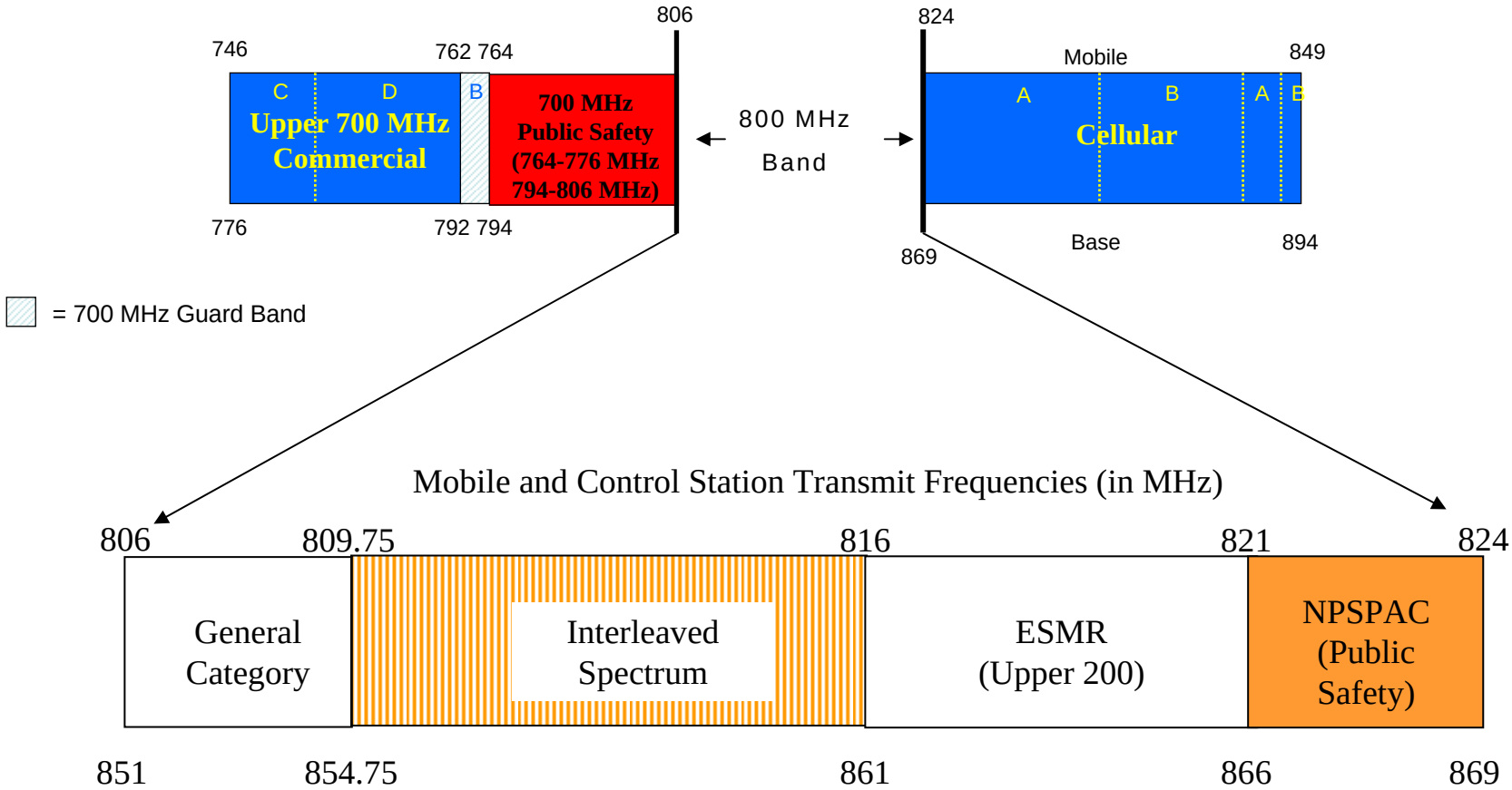
- **Responsibility for Abating Interference:** Any ESMR or cellular telephone licensee that causes, or contributes to, unacceptable interference to a non-cellular licensee is responsible for abating it promptly at its own expense.

- **Interference Resolution Procedures:** Licensees must comply with standardized procedures for reporting 800 MHz interference, identifying its source, and implementing a solution.

THE 800 MHz INTERFERENCE SOLUTION, PART II

BAND RECONFIGURATION

Long-term, sustainable solution to the problem of 800 MHz interference



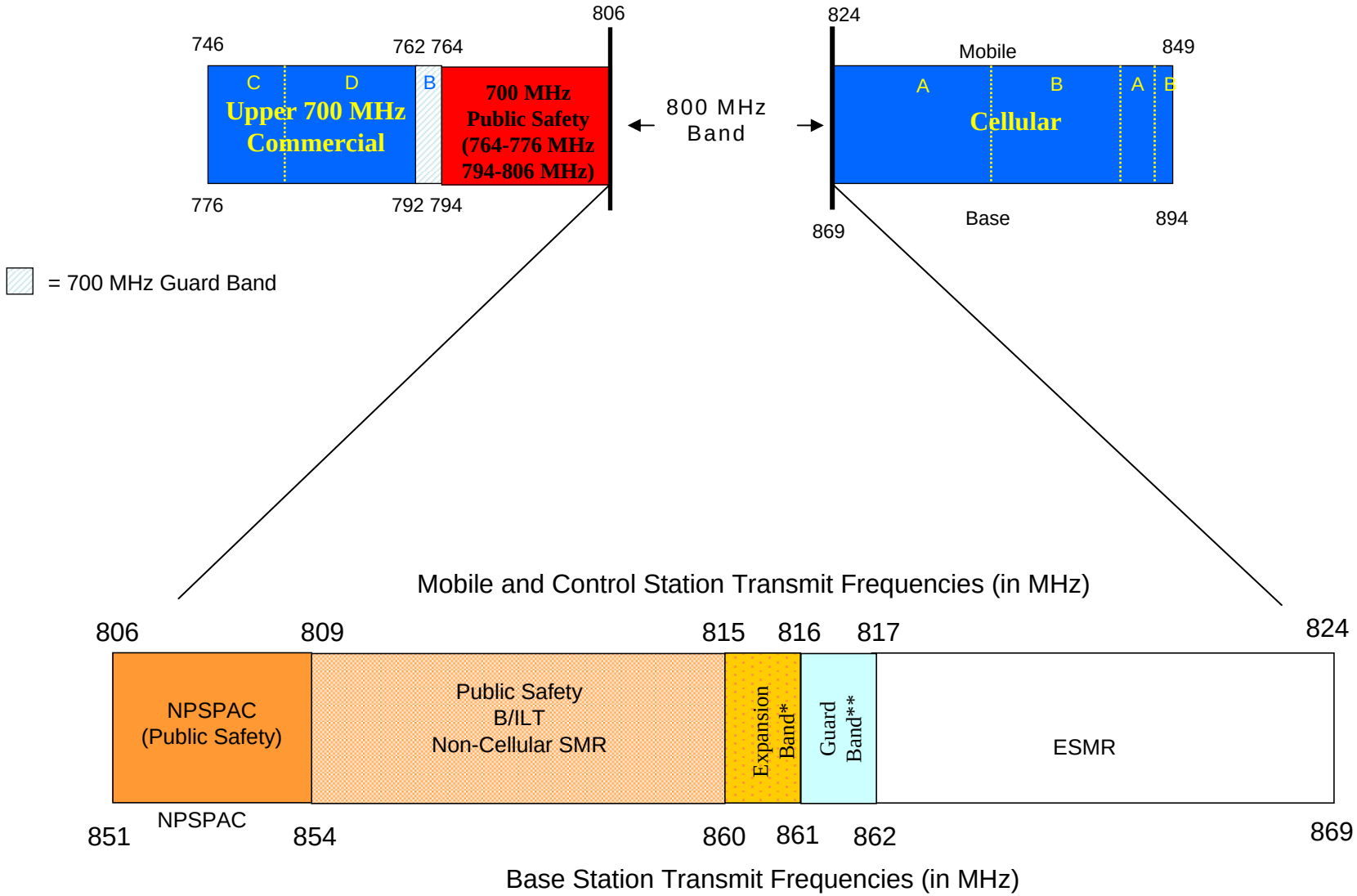
<u>General Category -7.5 MHz</u>
150 Channels
Licensed by EA Blocks of 25 channels (SMR)
Some Incumbent Operators Remain

<u>ESMR/Upper 200 – 10 MHz</u>
200 Channels
Licensed by EA
Non EA incumbents are currently undergoing mandatory relocation

<u>NPSPAC - 6 MHz</u>
225 Channels @ 12.5 kHz spacing
5 Channels @ 25 kHz spacing
5 Mutual Aid Channels

<u>Interleaved Spectrum -12.5 MHz</u>
250 Channels
80 SMR Channels
(Licensed by EA, Some Incumbent Operators Remain)
70 Public Safety Channels
50 Business Channels
50 Industrial Land Transportation Channels

PRE-RECONFIGURATION BAND PLAN



*No public safety system will be required to remain in or relocate to the Expansion Band; although they may do so if they choose.
**No public safety or CII licensee may be involuntarily relocated to occupy the Guard Band.

POST-RECONFIGURATION BAND PLAN

Band Reconfiguration

Public Safety Benefits from Band Reconfiguration

- **Band realignment will result in the availability of an average of 4.5 MHz of additional 800 MHz-band spectrum.**
- **Eligibility for these approximately 90 two-way channels will be limited to public safety for three years after band reconfiguration and then for public safety and critical infrastructure use for two years (i.e. years 4 and 5 after band reconfiguration).**
- **Relocating Public Safety to the lower portion of the 800 MHz band affords Public Safety the potential to realize interoperability with adjacent 700 MHz public safety operations.**

Band Reconfiguration

Transition Administrator

- **To ensure a smooth transition to the new 800 MHz band plan, an independent Transition Administrator is managing the relocation process.**
- **The independent TA is:**
  - ✓ **overseeing the administrative and financial aspects of the band reconfiguration process**
  - ✓ **providing accountability**
  - ✓ **ensuring that reconfiguration is achieved with minimal disruption to licensees, particularly public safety entities**
  - ✓ **ensuring timely payment of relocation funds by Nextel**
  - ✓ **resolving relocation disputes.**
- **TA decisions are subject to *de novo* review by the Commission.**

Band Reconfiguration

Milestones

- **Transition Administrator Search Committee selected Bearing Point, Squires-Sanders-Dempsey, LLP and Baseline Telecom, Inc. (Transition Administrator Team) as the Transition Administrator on September 20, 2004.**
- **The TA Team provided the Commission with a band reconfiguration schedule for each NPSPAC Region on January 31, 2005.**
- **Nextel filed its written acceptance of the conditions of 800 MHz reconfiguration with the Commission on February 7, 2005.**
- **Nextel/Southern submitted agreement for channel assignments in Southern's operating territory on February 7, 2005.**

Band Reconfiguration

Milestones

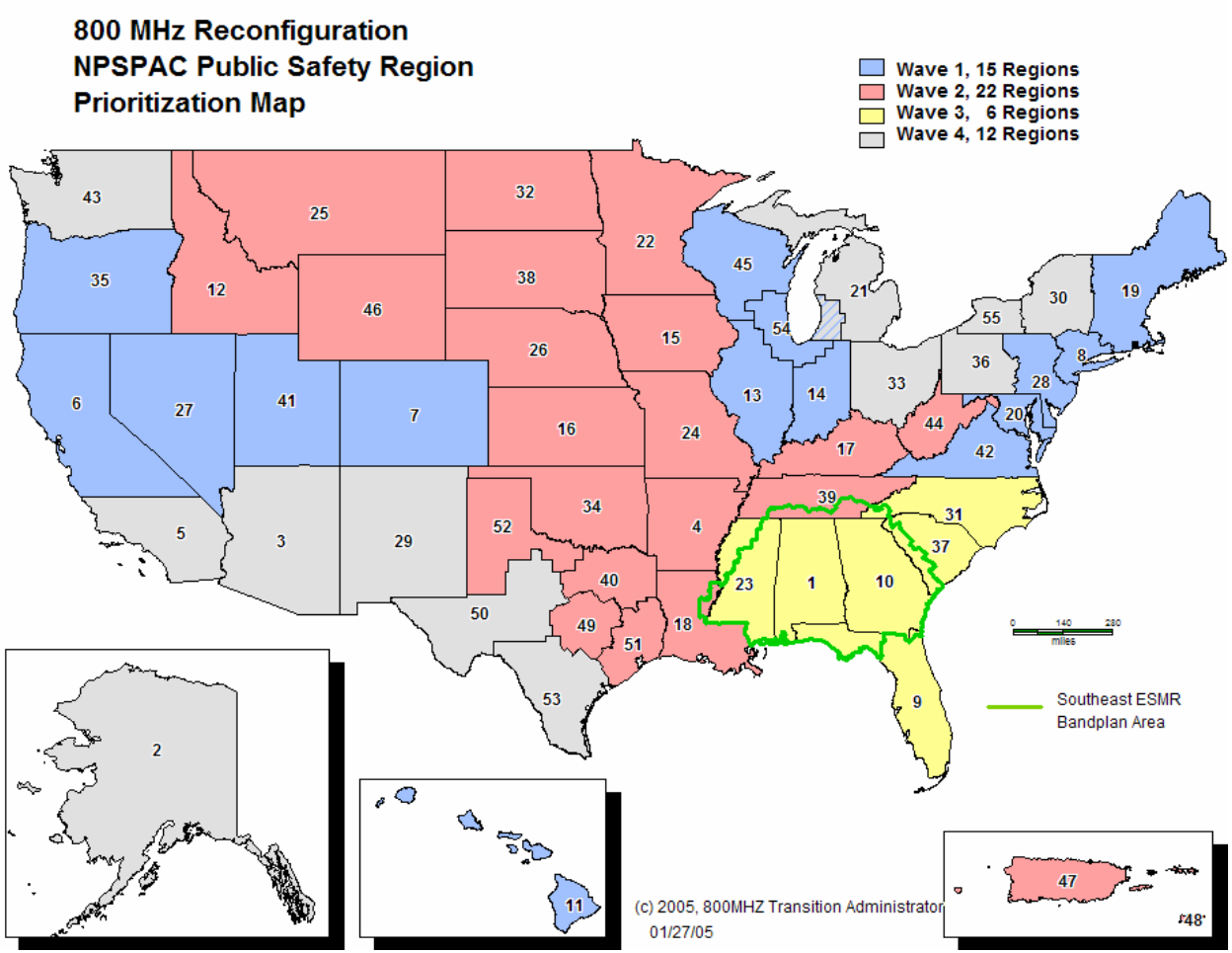
- **Commission approval of Transition Administrator's reconfiguration schedule (March 11, 2005.)**
- **ESMR/cellular licensees responsible for establishing common electronic data base for interference complaints by March 22, 2005.**
- **Completion of band reconfiguration within 36 months of start of reconfiguration of first NPSPAC region.**

Band Reconfiguration

Step-by-Step Relocation Process

- **TA notifies a licensee of the need to relocate.**
- **Cost of relocation is estimated and submitted to the Transition Administrator or directly to Nextel (licensee will be paid for the cost of producing the estimate).**
- **Any disputes are referred to the Transition Administrator.**
- **Unresolved disputes may be referred to the Commission.**
- **Licensee files license modification application and begins operation on the new channel upon Commission approval.**

Rebanding Schedule



Reconfiguration Waves

BAND RECONFIGURATION WAVES

- **Under the Reconfiguration Schedule approved by the Commission, reconfiguration will occur in four waves.**
- **Wave One includes major metro areas with significant interference problems.**
- **Wave Four includes NPSPAC regions in the U.S. border areas with Canada and Mexico.**
- **The Commission will issue two Public Notices announcing the commencement date of band reconfiguration negotiations: one for non-NPSPAC licensees and one for NPSPAC licensees.**
- **The first Public Notice will trigger an application freeze for non-NPSPAC licensees and the second Public Notice will trigger a freeze for NPSPAC licensees.**

What Should I Be Doing?

Determine If Your System Will Need to be Reconfigured

- **Generally, licensees currently operating in the 806-809/851-854 MHz segment (former channels 1-120) or the 821-824/866-869 MHz segment (former channels 601-830) will have to change frequency.**

- **Except in border areas, licensees operating in the 809-815 MHz/854-860 MHz portion of the band will likely not need to change frequency.**

- **However, public safety licensees operating in the 815-816/860-861 MHz segment (former channels 361-400) must be relocated out of this portion of the band unless they specifically request to remain on their current channel(s).**

What Should I Be Doing?

Preparing for Reconfiguration

Education

Inventory Radio Equipment

Check Your License

Document Unique Aspects of Your System

Keep Track of Costs

Negotiation Choice

Conclusion

For More Information:

- **The Text of the Transition Administrator's Regional Prioritization Plan is available at:**

  http://www.800ta.org

- **Answers to frequently asked questions (FAQs), the full text of the 800 MHz Report and Order (FCC 04-168) and Supplemental Order and Order on Reconsideration (FCC 04-294) can be accessed at:**

  http://wireless.fcc.gov/publicsafety/